

SHREDDED MEAT APPLICATOR

BACKGROUND OF THE INVENTION

This invention relates to a food-depositing apparatus and particularly to an automatic means and apparatus for applying and depositing a shredded or granulated meat upon a based member such as a pizza crust.

Manual processing and production of pizzas, particularly frozen pizzas which are sold in grocery stores and the like, is a relatively time consuming and expensive procedure and makes quality control difficult. As a result of such problems and the like, various automatic pizza forming devices have been suggested in the pizza forming art. Highly satisfactory apparatus is disclosed in the several patents of the present inventor, such as U.S. Pat. No. 3,368,501, which issued Feb. 13, 1968; U.S. Pat. No. 3,682,106 which issued Aug. 8, 1972 and U.S. Pat. No. 3,779,205 which issued Dec. 18, 1973. Such patents disclose highly satisfactory automatic apparatus for the processing of pizzas by the automatic and sequential application of the various materials to a pizza base including sauce, meat, shredded cheese and the like. U.S. Pat. No. 3,368,501 particularly discloses a highly satisfactory means for applying of shredded food which has been particularly satisfactory in depositing of cheese on sauce covered shells. U.S. Pat. No. 3,779,205 discloses an apparatus particularly adapted for applying of shredded meat to the base members.

Although such systems provide significant teaching in the development and product of pizza forming apparatus, they have not generally had the capability of automatic application of shredded meat with the control and/or speed comparable to that of the application of the shredded cheese and sauce particularly with the high degree of accuracy desired in the metering of the meat.

SUMMARY OF THE PRESENT INVENTION

The present invention is particularly directed to a granulated meat applicator for automatic depositing of accurately metered quantities of the granulated meat on a pizza shell or other base member. Generally, in accordance with the present invention, the granulated or shredded meat is supplied to a meat conveyor means of a meat applicator apparatus in a frozen or essentially frozen state, and the meat applicator apparatus is enclosed within a controlled cool environment to prevent thawing of the shredded meat. The meat conveyor means includes a means to transport the granulated meat to a discharge end from which the meat falls onto the bases, which pass thereunder. A metering means is mounted adjacent the discharge end to provide a controlled free-fall column of the granulated meat for producing accurate amounts of the meat upon each shell. The conveyor means and associated equipment such as the metering means are enclosed in any suitably walled means with a cooling means provided therein for establishing a maximum temperature during the transport and depositing of the granulated meat to insure the proper control and application to the bases. In addition to the cooling enclosure, auxiliary cooling means may be located adjacent to the belt to further insure that the granulated meat remains frozen. Further, the inventor has found that a significantly better quality control results if the meat is applied to the sauce coated crusts prior to application of the cheese.

In a particular preferred construction, a metering means includes a rotating tined beater having a plurality of radial rods or tines of differing lengths. The rotating tined beater is located immediately adjacent the upper discharge end of the meat conveyor means.

In a practical construction a shell or crust conveyor and the meat conveyor are suitably supported in superimposed relationship. The frozen shredded meat is deposited from a suitable source to a hopper overlying the infeed end of the meat conveyor for discharge onto the meat conveyor. The shell conveyor includes an apertured support surface such as that provided by spaced belts. A meat recovery conveyor is located immediately beneath the shell conveyor such that any of the shredded meat which falls through the conveyor drops onto the recovery conveyor. A return conveyor is specially constructed such as a cleated belt to accept the shredded meat from the recovery conveyor, carry it upwardly and deposit it onto the meat conveyor. The total assembly is enclosed within an outer enclosure having sidewalls and a top wall with appropriate conveyor openings for passing of the shells through the enclosure and the meat application apparatus. A pair of alternating cooling devices are alternately operated to create a continuous flow of cool air upwardly to the top of the enclosure and then downwardly over the stacked conveyors and the associated apparatus.

The present invention has been found to provide a highly reliable means for depositing of highly accurately metered amounts of granulated or shredded meat.

BRIEF DESCRIPTION OF THE DRAWINGS

The drawings furnished herewith illustrate the best mode presently contemplated by the inventor for carrying out the invention in which the above advantages and features are clearly disclosed as well as others which will be readily and fully understood from the following description.

In the drawings:

FIG. 1 is a side elevational view of the pizza processing apparatus incorporating the subject matter of the present invention;

FIG. 2 is an enlarged side elevational view of the apparatus of FIG. 1;

FIG. 3 is a top elevational view taken generally on line 3—3 of FIG. 2; and

FIG. 4 is a view taken generally on the line 4—4 of FIG. 3.

DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

Referring to the drawings and particularly to FIG. 1, the present invention as illustrated in connection or applied to pizza processing apparatus in which preformed shells 1 are fed from a suitable source into the apparatus. Generally, the apparatus includes a sauce applicator 2 which is mounted adjacent to the infeed end of a shredded meat applicator apparatus 3 which particularly forms an embodiment of the present invention. The shells 1 are thus first coated with a sauce 4 and then the sauce-covered shell receives a quantity of shredded meat 5. The shells 1 are fed therefrom into an automatic cheese applicator 6 for application of a covering of shredded cheese 7. The shells may be fed to the applicator 2 from an automatic shell forming apparatus, a manual preformed loading station or the like. An infeed shell belt 8 is shown mounted to the input side of the sauce applicator 2 and is adapted to transfer in